

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C.20231
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 28 August 2000 (28.08.00)	
International application No. PCT/GB99/02300	Applicant's or agent's file reference P270WO
International filing date (day/month/year) 16 July 1999 (16.07.99)	Priority date (day/month/year) 24 July 1998 (24.07.98)
Applicant GODWIN, Russell, Mark et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
21 February 2000 (21.02.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Olivia RANAIVOJAONA
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

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NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

STANLEY, David, William
Stanleys
Intellectual Property
King's Court
12 King Street
Leeds LS1 2HL
ROYAUME-UNI

Date of mailing (day/month/year) 10 October 2000 (10.10.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference P270WO	
International application No. PCT/GB99/02300	International filing date (day/month/year) 16 July 1999 (16.07.99)

1. The following indications appeared on record concerning:									
<input type="checkbox"/> the applicant	<input type="checkbox"/> the inventor <input checked="" type="checkbox"/> the agent <input type="checkbox"/> the common representative								
Name and Address STANLEY, David, William David Stanley Intellectual Property King's Court 12 King Street Leeds Yorkshire LS1 2HL United Kingdom	<table border="1"> <tr> <td>State of Nationality</td> <td>State of Residence</td> </tr> <tr> <td colspan="2">Telephone No. + 44 1481 824411</td> </tr> <tr> <td colspan="2">Facsimile No. +44 1481 824422</td> </tr> <tr> <td colspan="2">Teleprinter No.</td> </tr> </table>	State of Nationality	State of Residence	Telephone No. + 44 1481 824411		Facsimile No. +44 1481 824422		Teleprinter No.	
State of Nationality	State of Residence								
Telephone No. + 44 1481 824411									
Facsimile No. +44 1481 824422									
Teleprinter No.									
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:									
<input type="checkbox"/> the person	<input type="checkbox"/> the name <input checked="" type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence								
Name and Address STANLEY, David, William Stanleys Intellectual Property King's Court 12 King Street Leeds LS1 2HL United Kingdom	<table border="1"> <tr> <td>State of Nationality</td> <td>State of Residence</td> </tr> <tr> <td colspan="2">Telephone No. + 44 1481 824411</td> </tr> <tr> <td colspan="2">Facsimile No. +44 1481 824422</td> </tr> <tr> <td colspan="2">Teleprinter No.</td> </tr> </table>	State of Nationality	State of Residence	Telephone No. + 44 1481 824411		Facsimile No. +44 1481 824422		Teleprinter No.	
State of Nationality	State of Residence								
Telephone No. + 44 1481 824411									
Facsimile No. +44 1481 824422									
Teleprinter No.									
3. Further observations, if necessary:									
4. A copy of this notification has been sent to:									
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned								
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned								
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Sean Taylor Telephone No.: (41-22) 338.83.38
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WO 00/0590
PCT/GB99/02

PATENT COOPERATION TREATY

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NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

STANLEY, David, William
David Stanley Intellectual Property
King's Court
12 King Street
Leeds
Yorkshire LS1 2HL
ROYAUME-UNI

Date of mailing (day/month/year) 03 February 2000 (03.02.00)		
Applicant's or agent's file reference P270WO		IMPORTANT NOTICE
International application No. PCT/GB99/02300	International filing date (day/month/year) 16 July 1999 (16.07.99)	Priority date (day/month/year) 24 July 1998 (24.07.98)
Applicant LEEDS TECHNOLOGIES LIMITED et al		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:
AU,CN,EP,IL,JP,KP,KR,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:
AE,AL,AM,AP,AT,AZ,BA,BB,BG,BR,BY,CA,CH,CU,CZ,DE,DK,EA,EE,ES,FI,GB,GD,GE,GH,GM,HR,
HU,ID,IN,IS,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MD,MG,MK,MN,MW,MX,NO,NZ,OA,PL,PT,RO,RU,
SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,UA,UG,UZ,VN,YU,ZA,ZW
The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).
3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on
03 February 2000 (03.02.00) under No. WO 00/05901

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

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REC'D 13 SEP 2000

WIPO

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P270WO	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB99/02300	International filing date (day/month/year) 16/07/1999	Priority date (day/month/year) 24/07/1998
International Patent Classification (IPC) or national classification and IPC H04N17/00		
Applicant LEEDS TECHNOLOGIES LIMITED et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.



2. This REPORT consists of a total of 6 sheets, including this cover sheet.

- ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 21/02/2000	Date of completion of this report 11.09.2000
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Glendinning, D Telephone No. +49 89 2399 2443 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB99/02300

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-26 as originally filed

Claims, No.:

1-18 as originally filed

Drawings, sheets:

1/4-4/4 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/GB99/02300

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-18
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-18
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-18
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

V Reasoned statement under Article 35(2)

- 1 The invention concerns a system and method for synchronising video and audio signals transmitted over a link between a first and a second point. Video and audio test signals are added to the video and audio signals, each test signal having first and second periods of different state (e.g. different voltage). At the second point a circuit looks at the received video signal, including the video test signal, and produces gating signals corresponding to the active picture periods. Audio and video timing signals are produced, indicating when the received audio and video test signals change from the first to the second state. These timing signals are passed on to a measurement circuit provided they occur within the active picture periods as determined by the gating signals. By comparing the time relationship between the thus passed on audio and video timing signals at the second point with a predetermined relationship between the starts of the second periods of the audio and video test signals at the first point the measurement circuit is able to work out whether one of the audio and video test signals has been delayed relative to the other. The closest prior art is that disclosed in EP-A-0 386 928 - in this system so-called coincidental markers are added to the video and audio signals at a transmitter end: at the receiver end one looks at the time relationship between the received markers to detect any relative delay of the audio and video signals. There appears to be no disclosure in that EP document of two-state audio and video test signals at the transmitter, producing timing signals at the receiver and passing these timing signals to a measurement circuit under the control of gating signals. The other documents cited in the Search Report do not suggest modifying the system of the EP document in such a way as to fall within the terms of the independent claims of this application. The subject matter claimed can thus be considered to be new and to have inventive step.
- 2 The claimed invention has industrial applicability in the field of television.

VII Certain defects in the international application

- 1 The description should cite EP-A-0 386 928 and indicate the background art disclosed therein {Rule 5.1(a)(ii)}.
- 2 The passage in the description from line 10 on page 25 to line 10 on page 26 appears to serve no useful function in the application, is thus unnecessary and

should accordingly be deleted {Rule 9.1(iv)}.

III Certain observations on the international application

- 1 The passage "said second periods of said audio and video test signals having a predetermined time relationship" at lines 13 and 14 of claim 1 is not wholly clear - it could refer to the durations of the two periods, but should surely refer to the start of the second periods.

1.1 The same point arises in method claim 17 (see foot of page 31).

- 2 There are obscurities in the definition of the timing measurement means at the end of claim 1. Firstly, the "said predetermined time relationship" at the top of page 29 does actually refer to the "said second periods of said audio and video test signals" (see page 27 at lines 13 and 14) and not to the time relationship between each pair of said video and audio timing signals as set out in lines 1-3 on page 29.

Secondly, the passage "detecting whether said video timing signal or said audio timing signal of each associated pair has been delayed with respect to the other" (page 29 at lines 4-6) is obscure - the timing signals are created at the second point itself, as set out in subsections (iv) and (v) on page 28, and are passed directly to the timing measurement means, so there is no occasion for either to be delayed with respect to the other. Of course what happens in real life is that the applicants look at the predetermined time relationship between the start of the second periods of the audio and video test signals at the first point, and at the time relationship between the audio and video timing signals produced at the second point, and from that information they work out whether one of the audio and video test signals has been delayed relative to the other - but claim 1 does not at present make that clear.

2.1 The same points arise in method claim 17 in subsection (vii) on page 33.

- 3 The term "and" in claim 17 at the end of line 14 on page 32 should be deleted.

- 4 Claim 18 is not clear - the apparatus according to claim 16 is that at the second point, whereas the method of claim 17 is performed at both the first and second points, and so quite clearly that method cannot be carried out by the apparatus of claim 16.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB99/02300

- 5 If this application is pursued with amended claims in the regional phase then the passage from line 9 on page 2 to line 12 on page 8 would need to be brought into line with the new claims as to what the invention actually is {Rule 5.1(a)(iii)}.



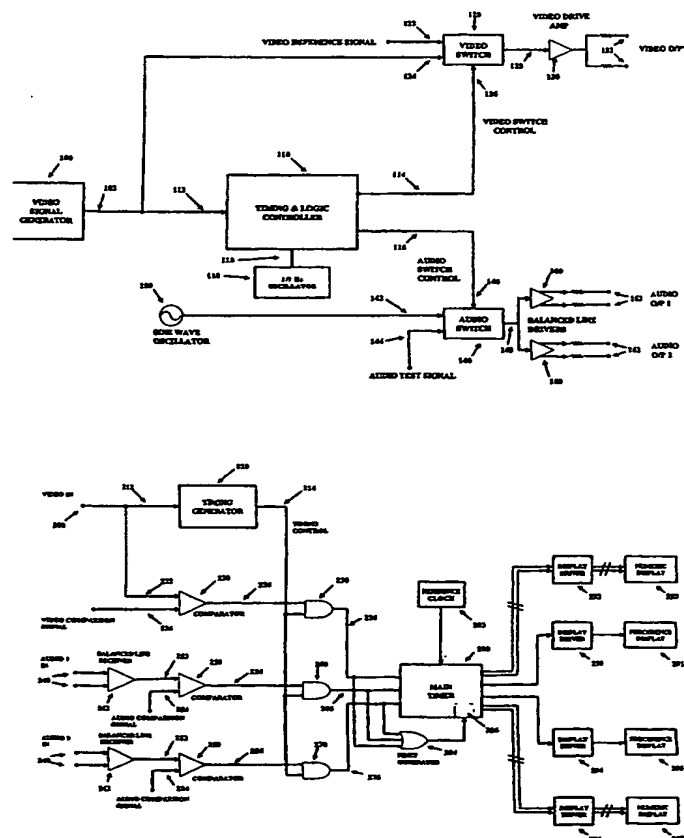
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : H04N 17/00		A1	(11) International Publication Number: WO 00/05901
			(43) International Publication Date: 3 February 2000 (03.02.00)
(21) International Application Number: PCT/GB99/02300 (22) International Filing Date: 16 July 1999 (16.07.99) (30) Priority Data: 9816135.9 24 July 1998 (24.07.98) GB 9905659.0 12 March 1999 (12.03.99) GB (71) Applicant (for all designated States except US): LEEDS TECHNOLOGIES LIMITED [GB/GB]; Nutclough Mill, Hebden Bridge, Yorkshire HX7 8EZ (GB). (72) Inventors; and (75) Inventors/Applicants (for US only): GODWIN, Russell, Mark [GB/GB]; 138 High Road, North Weald, Essex CM16 6BZ (GB). WILSON, John, Michael [GB/GB]; 3 Egerton Terrace, Rawdon, Leeds, Yorkshire LS19 6QA (GB). (74) Agent: STANLEY, David, William; David Stanley Intellectual Property, King's Court, 12 King Street, Leeds, Yorkshire LS1 2HL (GB).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published With international search report.	

(54) Title: VIDEO AND AUDIO SYNCHRONISATION

(57) Abstract

In order to synchronise video and audio signals, a video test signal and an audio test signal are generated at the transmitting end of a transmission link, and transmitted over the link. The video test signal has first and second active picture periods of contrasting states. The audio test signal has first and second periods of contrasting states. As generated, the video and audio test signals have a predetermined timing relationship – for example, their changes of respective states may be coincident in time. At the receiving end of the link, the video and audio test signals as received are detected, and any difference of timing between the video and audio test signals is derived from their changes of respective states, measured and displayed, including an indication of whether the video signal arrived before the audio signal or vice-versa. Additionally or alternatively, such a measurement signal can be used in a control loop to compensate for the delay and automatically re-synchronise the audio and video signals. The system is particularly suitable for transmission of video and audio over separate paths of a link – e.g. respectively over satellite and terrestrial paths.



FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

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EE	Estonia	LR	Liberia	SG	Singapore		

INTERNATIONAL SEARCH REPORT

International Application No

PC./GB 99/02300

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 H04N17/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 H04N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 386 928 A (TEKTRONIX INC ;NAT BROADCASTING COMPANY INC (US)) 12 September 1990 (1990-09-12) the whole document ---	1-18
A	PATENT ABSTRACTS OF JAPAN vol. 012, no. 153 (E-607), 11 May 1988 (1988-05-11) & JP 62 266959 A (MITSUBISHI ELECTRIC CORP), 19 November 1987 (1987-11-19) abstract ---	1-18
A	GB 2 282 929 A (BRITISH BROADCASTING CORP) 19 April 1995 (1995-04-19) -----	

☐ Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

8 November 1999

Date of mailing of the international search report

12/11/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Yvonnet, J

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PC., GB 99/02300

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 0386928 A	12-09-1990	US 4963967 A	16-10-1990
		CA 2008890 A	10-09-1990
		DE 69027798 D	22-08-1996
		DE 69027798 T	30-01-1997
		JP 2274070 A	08-11-1990
<hr/>			
JP 62266959 A	19-11-1987	NONE	
<hr/>			
GB 2282929 A	19-04-1995	NONE	
<hr/>			